
HEALTHCARE

This section addresses the critical sector of healthcare, and includes a discussion of hospitals, physicians' offices, nursing homes, health claims billing systems, and the pharmaceutical industry.

laboratories, factories, and warehouses; and

- electronic interconnections or interfaces.

BACKGROUND AND VULNERABILITIES

The statistics underlying the healthcare industry illustrate its staggering scope and breadth. There are 800,000 physicians and 6,000 hospitals across the country. Americans make approximately 3.8 million inpatient visits each day, and approximately 20 million outpatient visits each day. Each year, the U.S. spends over \$1.5 trillion on healthcare; the federal Medicare program alone treats 38 million senior citizens at an annual cost of \$200 billion. Finally, Americans consume \$90 billion worth of medication and medical supplies annually.

The healthcare industry is vulnerable to Y2K problems on several fronts, among them:

- the software used to manage patient data systems, including admissions, insurance, recordation of diagnostic tests, billing, and research;
- the embedded microprocessors used in biomedical devices; infrastructure operations such as heating, ventilation, security, and air conditioning; and process control and analytical devices used in

WHAT IS BEING DONE?

The Committee conducted its first healthcare hearings in July and October 1998. These hearings played a critical role in galvanizing the healthcare industry into stepping up its Y2K efforts.¹

In 1999, the Committee continued its discussions with representatives of the healthcare industry to ascertain the industry's Y2K status and to identify any notable problems. The Committee also held a June 1999 healthcare hearing in which the Y2K vulnerabilities of biomedical devices and contingency planning for hospitals, nursing homes, and physicians' offices were addressed.²

Committee staff actively participated in the President's Council on the Year 2000 Conversion (President's Y2K Council) roundtables on healthcare issues, including the June 1999 roundtable on consumable medical and surgical supplies.

GAO has issued numerous reports on Y2K as it relates to the healthcare sector, ranging from the effects on biomedical devices to federal programs such as Medicare and Medicaid. All of these reports are available on GAO's Web site, at <http://www.gao.gov/y2kr.htm>.

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Finally, certain segments of the healthcare industry have conducted surveys to ascertain Y2K preparedness efforts and status.

STATUS

With the exceptions of segments linked to federal programs, obtaining reliable information about the Y2K status of the healthcare industry has been a frustrating experience. In particular, the Committee has a dearth of reliable information on the Y2K compliance status of typical physicians' offices and nursing homes. This is particularly worrisome because physicians' offices have more Y2K compliance issues than they might think, from their office building infrastructure to their diagnostic and therapy equipment, patient records, billing systems, and private branch exchange (PBX) telephone systems. Depending upon their level of patient services, nursing homes have many of these same Y2K issues.

Prescription Drugs

While generally considered to be one of the leaders in the Y2K remediation effort, pharmaceuticals are caught in the classic squeeze of dependency on suppliers and distributors. Because of FDA regulations intended to protect the public, pharmaceutical companies must have a pre-approved ingredient supplier whose product is registered upon arrival for a particular drug product batch. This means that a constant supply source is critical to the drug

manufacturing process. On the sales/distribution side, the companies sell 80% of their product through wholesale drug firms, thus requiring minimal direct sales. It is essential for success that both sides of the equation function effectively through this Y2K window of risk. The pharmaceutical companies are encouraging their colleagues in allied businesses to be Y2K prepared.

"Y2K-RELATED FAILURES COULD PREVENT LIFE-SAVING DEVICES FROM WORKING, CHOKING THE SUPPLY CHAIN OF MEDICAL PRODUCTS, AND CRIPPLING THE FINANCING OF THE HEALTHCARE INDUSTRY."
- SENATOR DODD

The pharmaceutical industry has demonstrated in numerous surveys, both public and private, that Y2K compliance is a top priority. This industry began awareness as early as 1996, had top management leadership, adequate resources ranging into the multibillion dollar level, and a history of recognizing long range windows of opportunity. The industry's Y2K preparation includes:

- stockpiling imported drug ingredients;
- ensuring that drug manufacturing facilities are Y2K compliant;
- ensuring that the wholesale drug ordering-inventory-distribution system is Y2K compliant;
- obtaining the Y2K readiness of retailers to handle the automated drug re-ordering, patient record keeping, and billing intrinsic to prescription drug sales; and
- ensuring there is a contingency planning program for supplying

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drugs to communities temporarily distressed by Y2K infrastructure outages.

The Committee has received public testimony on these facts, conducted staff appraisals of the wholesale-retail process, and has been an active member of the President's Y2K Council dealing with the pharmaceutical industry's compliance activities. The Committee has worked closely with the industry on behalf of 50 million chronically ill Americans due to their critical dependence on prescription drugs, as well as insulin, a non-prescription drug. Through it all we have become impressed as much with the industry's active support of Y2K compliance as with its performance.

The industry recognizes that a patient's use of prescription drugs is a medical necessity and the industry has taken an active role to ensure that drug re-supply will occur regardless of Y2K-related problems elsewhere.

In return for this drug supply assurance, the industry asks patients and hospitals not to stockpile drugs. There is a 90-day supply in the system if individuals and organizations do not hoard drugs.

Urban and Suburban Hospitals

It should come as no surprise that this class of healthcare providers is demonstrating a commitment to Y2K compliance. These hospitals have a prominent public presence locally and nationally, and millions of acutely ill patients depend on their effective services. We do not, however, have the quantity and quality of Y2K compliance reporting to make the same

level of public assurances as those for prescription drugs. The reason for this is complexity--the interaction of human functions and technological services. It is very difficult for a self-reported survey to effectively measure all hospital activities and come up with a pass or fail grade for Y2K compliance, since a modern hospital is more like a municipality than a pure medical model. For example:

- Information technology (IT) controlled and operated hospital infrastructure is the basis for all medical activities, including water, power, sewage, and telecommunications.
- Medical administration, an IT-dependent service, has responsibilities ranging from admissions through discharge, including patient medical records, billing records, and Medicare/Medicaid and private pay accounts receivable systems--the financial heart of every hospital.
- Medical IT has biomedical devices at its core. One biomedical device, such as a blood gas analyzer, radiates out messages to other biomedical devices (anesthesiology, patient monitoring, and so on) which, in turn, feed data into the medical administration's IT system.

Determining the Y2K compliance of all the electronic devices within a hospital is an extensive task that requires a project management team comprised of a group of expensive specialists. Since large hospitals and hospital chains have such a high financial

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stake in terms of both investment and operating income, they have to take Y2K compliance very seriously for their long-term survival. Based on public testimony and discussions of Committee staff with hospitals, hospital consultants, and hospital associations, we believe most of these institutions will either be Y2K compliant or will have adequate contingency planning to bridge over any temporary Y2K problems.

We base this assessment principally on their enlightened self-interest and concern for patient safety, not on any current Y2K compliance survey. Health industry surveys typically have been based on self-reported non-audited data with low rates of participation. This significantly reduces the value of the data as a predictive tool.

Rural and Inner City Hospitals

These two hospital groups have the same Y2K problems as the larger hospitals, with one critical difference: the financial resources to invest in solutions. An executive of a chain of rural hospitals in Utah testified that replacing Y2K noncompliant medical equipment will be an excessively costly capital expenditure. He also stated that stockpiling supplies such as additional fuel for backup generators would add additional costs to their operation. Finally, he said that his hospitals are heavily dependent on Medicare/Medicaid for cash flow, and he feared that a slowdown in health claims payments would adversely affect their viability as a functioning entity.³ From our discussions with those knowledgeable about the Y2K problems of inner-city hospitals, a

similar scenario is likely.

The Committee recognizes the potential severity of the impact of the Y2K problem on these hospitals. Patient advocates, community leaders, and medical and hospital organizations should refocus their efforts on supplementing existing resources--technical and financial, during the remaining time before January 1. Additionally, contingency planning takes on a high priority if Y2K outages are viewed as probable. Triage and priority setting become essential elements in institutional survival.

Health Claims Billing Systems

Providers (hospitals, doctors, nursing homes, durable medical equipment suppliers, and so forth) all bill insurance companies and governments (Medicare and Medicaid principally) for services provided to patients. Providers are required to use specific health claim forms for each third-party payor, which results in a very complicated process that is IT dependent and hence Y2K susceptible.

From the payor side, the Health Care Financing Administration (HCFA) has full responsibility for Medicare payments and monitoring responsibility for the states' Medicaid programs, which together account for approximately 40%-50% of all U.S. healthcare payments.

The Medicare billing system is a series of interdependent software modules operating in various configurations at 75 contractor-operated sites. These disparate systems were site-certified Y2K compliant by the De-

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partment of Health and Human Services (HHS) in March and June of this year. However, each site must be recertified in November 1999 after all the software updates for Fiscal Year 2000 Medicare rate adjustments are made. Moreover, an internal Medicare fraud, waste, and abuse software study recently conducted for HCFA by a private consulting firm points up the inherent software complexity required by Medicare health claim payment contractors to foil would-be fraud perpetrators.

The Committee has limited knowledge of the Medicaid billing and payment program. Medicaid is the responsibility of the 50 states. However, an August 31, 1999, HCFA report on the Y2K preparedness of individual states indicates that 8 states are in the high risk category; 25 are in the medium risk category; and 17 are in the low risk category. In the Committee's view, this raises serious concerns about the ability of 33 states (those in the high or medium risk categories) to deliver uninterrupted Medicaid payments after the century change.

One potential Y2K problem stems from the connective relationship between eligibility in the several welfare programs (such as food stamps and child support) and Medicaid eligibility. At this writing, HCFA and its independent contractors are concluding a second round of visits to those that it considers medium and high-risk for Y2K failures related to the following programs: Medicaid Management Information Systems, State Children's Health Insurance Program and Eligibility System. These visits are to be concluded by mid-September. The

initial reading is that some laggard states are showing substantial progress in their Y2K readiness. HCFA promises a third round of visits to medium and high-risk states focusing on contingency plans and risk mitigation efforts.

Physicians' Offices

There are approximately 50,000 physicians' offices in the U.S., ranging from a single physician to clinics with a hundred or more doctors. Data in this area is extremely limited—the Committee has seen only one inconclusive survey.

The single physician should have minimal Y2K problems within his or her office. The chances are that a patient billing system is computerized because of Medicare and other insurance forms, and there may be some routine diagnostic equipment with embedded chips. It is more likely that the sole practitioner's major exposure to Y2K is building infrastructure.

The larger group practices of physicians tend to have both diagnostic and therapy devices and patient record systems that may have Y2K problems, including the essential health claim billing systems. Their infrastructure exposure would be greater than a single practitioner due to the likelihood of a PBX, a potential Y2K problem source. Group practices tend to locate in larger buildings requiring more elaborate infrastructure and, hence, Y2K exposure.

The most direct way to alleviate any Y2K concerns a patient has with a physician is to ask if the office is Y2K

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compliant. If the provider has not considered the problem it will help direct attention to it. In any case, that type of discussion puts both physician and patient on notice if a Y2K problem is unresolved.

The ability of providers to submit Y2K compliant and accurate billings to Medicare claim processors is still open to debate. Recent reports by the HHS Office of Inspector General indicates that (1) most Medicare claims processors have not seriously tested consequential volumes of providers' claims for Y2K compliance, and (2) many providers have not participated in the outreach activities HCFA offers to help them address Y2K problems. Additional provider outreach conferences are scheduled for later this year. But the real test is providers submitting Medicare claims to processors to determine if their systems will function properly.

Nursing Homes

The approximately 16,000 nursing homes in the U.S. have some similarities to group practice doctors' offices. The larger ones have increased Y2K exposure due to more medical equipment with date-sensitive devices and, of course, infrastructure dependency. However, the existence of a large number of resident elderly patients dramatically changes the Y2K equation. Considering that January 1, 2000 is in the middle of winter, requiring major heating demands in the northern and central U.S., relatives of patients need to understand just how the nursing homes expect to cope with possible infrastructure outages. We are unfamiliar with any public

surveys or studies depicting how nursing homes will cope with potential serious disruption of their normal activities due to Y2K problems. The Committee raised this question during its June 10 hearing with a nursing home administrator from Oklahoma. He testified that, when a tornado struck a nearby town, the damage took out all of his nursing home's internal and external electronic systems including telecommunications, power, and stand-by generator. This left the nursing home to deal with 31 residents that were receiving critical therapy. Fortunately they had an effective disaster plan that included training for employees and patients alike, because they lived in "Tornado Alley."⁴

The administrator stressed the absolute criticality of contingency planning because there is no time to "play it by ear" when everything that possibly can go wrong goes wrong. Federal and state officials responsible for nursing home financing and operations must heed his comments about the necessity of prior planning for major Y2K outages, which are unpredictable. Relatives of nursing home residents must raise the questions about contingency planning since the need for prompt response to potential Y2K problems is paramount.

Contingency Planning

What we don't know can harm us if it happens when we are vulnerable and not prepared for an alternative response to a critical healthcare issue.

One example lies in the backup emergency generator power supply possessed by most hospitals and nursing

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homes. In the Y2K context, contingency planning for this alternate power supply requires that the following questions be asked and answered:

- How reliable is the generator's performance over a prolonged period?
- How much fuel should be stored to operate the generator?
- How much power in kilowatts can the generator produce for what time period?
- Which portions of the facility have been designated for stand-by power, and are electrical outlets available to use this emergency power?
- How will parts of the facility that do not have this electricity continue to function?

Contingency planning is needed in every healthcare setting, from the home, to ambulances, to all hospitals, nursing homes, doctor's offices, pharmacies and drug dispensaries, and health claim billing and payment systems. The irony is that those organizations that did the best job on Y2K remediation are taking the lead on contingency planning, while the ones that may be most exposed to Y2K problems tend to put off planning for alternate operations in case of Y2K glitches.

Healthcare institutions have to plan substitute ways to accomplish daily tasks. This does not mean some sterile planning exercise with a paper plan and no clue to how it would be

implemented. They need an insightful contingency plan put together by knowledgeable professionals and then used as a training device for those held accountable for implementation of the plan. Training means trial implementation of the contingency plan by all those affected by the potential Y2K outage.

EXPECTATIONS

You should expect that the drugs you require for your particular medical condition will be available from your normal source, with two critical caveats:

- Maintain your usual quantity of prescription drugs and get your re-fills promptly a week before you run out of the existing prescription.
- Do not stockpile drugs. If 50 million patients start a run on any drug, shortages will occur regardless of an adequate industry supply.

For a patient or person concerned about a currently ill relative, the best action is to raise the questions outlined in this report and obtain some specific answers. If you are not satisfied with the responses, indicate your dissatisfaction and seek a remedy. Each person needs to find out how their healthcare providers rate in meeting Y2K compliance goals.

HCFA has made great progress in its Medicare payment Y2K compliant program. But we all know that when you are dealing with \$200 billion per year in automated Medicare payments, it isn't over until it's over.

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CONCERNS

- The Committee remains concerned about the general lack of end-to-end testing of biomedical devices within hospital settings. We recognize that hospitals have identified biomedical devices and their Y2K compliance status but only integrated testing ensures that each device will function properly with connective devices. This is a potential patient safety risk.
- With respect to healthcare billing systems, there has been little Y2K participation by Part B (outpatient) providers, and there has been inadequate Y2K testing between these providers and the Medicare contractors.
- In its August 13, 1999 Report on Year 2000 Efforts, HHS included a section on business continuity and contingency plans. HHS estimates a nationwide expenditure of \$98,860,229 for Day One (January 1, 2000) and contingency planning activities. HCFA alone will spend \$83 million principally on its Medicare claims processing contractors. Patient care functions require equal concern for Y2K readiness. But there does not appear to be any national governmental or institutional focus dealing with Y2K patient safety contingency planning. The Joint Commission on the Accreditation of Healthcare Organizations requires a Disaster Plan for hospitals. These plans receive only triennial review for each institution and were never intended to be a surrogate for Y2K contingency planning.
- In planning your medical requirements at year's end, you should consider avoiding hospital utilization except in cases of acute need. Emergencies will always have top priority in a hospital's fulfilling its responsibilities to patients. However, elective surgery and other non-critical health events should be avoided in the waning week of the year until the Y2K crisis has passed and your medical community is functioning without Y2K as an overhanging issue.

¹ "The Year 2000 Computer Problem: Will the Health Care Industry Be Ready?", July 23, 1998, S. Hrg. 105-688; "Emergency Planning for the Year 2000: Preparation or Panic?", Oct. 2, 1998, S. Hrg. 105-895.

² "Y2K and Healthcare: It's Time for Triage," June 10, 1999, S. Hrg. 106-__.

³ Testimony of Philip Roberts, M.D., before the U.S. Senate Special Committee on the Year 2000 Technology Problem, June 10, 1999, "Y2K and Healthcare: It's Time for Triage," S. Hrg. 106-__.

⁴ Testimony of Randy Musick, Integrated Health Services, before the U.S. Senate Special Committee on the Year 2000 Technology Problem, June 10, 1999, "Y2K and Healthcare: It's Time for Triage," S. Hrg. 106-__.